

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A terminal status control system comprising:

a registration table in which information concerning a terminal that is allowed to use a specific base station is registered;

a judging unit judging whether a terminal that has entered a cell of the specific base station is the terminal registered in the registration table by referring to the registration table; and

a control unit, if the terminal is the registered terminal, placing the terminal under a communicable status using the specific base station, and if not, placing the terminal under an incommunicable status using the specific base station,

wherein the terminal is constructed so as to transmit a location updating request when system broadcast information containing a location area identifier received from a base station is changed due to an inter-cell movement, and

the terminal status control system further comprises:

a giving unit giving the specific base station the system broadcast information containing a location area identifier for the specific base station that is different from location area identifiers broadcasted in cells adjacent to the cell of specific base station as a location area identifier that the specific base station broadcasts in the cell thereof, and

wherein the giving unit is provided in a base station control apparatus that manages and controls the specific base station,

the base station control apparatus includes a conversion unit converting a location area identifier of a location area, to which the specific base station belongs, the location area identifier being received from a location management apparatus managing the location of each terminal existing in the location area, into a unique location area identifier for the specific base station to make the system broadcast information containing the unique location area identifier,

wherein the base station control apparatus includes a conversion table for the conversion unit converting the location area identifier managed by the location management apparatus into the unique location area identifier of the specific base station, and the giving unit gives the broadcast information containing the unique location area identifier converted by the conversion unit to the specific base station; and

wherein the conversion unit converts the unique location area identifier for the specific base station contained in the location updating request from the terminal, which the base station control apparatus receives the location updating request from the specific base station, into the original location area identifier of the location area by use of the conversion table, in order to transmit the location updating request containing the original location area identifier to the location management apparatus.

2. (Original) A terminal status control system according to claim 1,

wherein with reception of a location updating request transmitted from the terminal as a trigger, the judging unit judges whether the terminal is the registered terminal by acquiring base station specifying information for specifying the base station that received the location updating request from the terminal and identification information of the terminal, and judging whether the

base station specifying information and the terminal identification information are registered in the registration table, and

if the terminal is the registered terminal, the control unit approves the location updating request from the terminal, and if not, rejects the location updating request from the terminal.

3-5. (Cancelled)

6. (Previously Presented) A terminal status control system comprising:

a registration table in which information concerning a terminal that is allowed to use a specific base station is registered;

a judging unit judging whether a terminal that has entered a cell of the specific base station is the terminal registered in the registration table by referring to the registration table; and

a control unit, if the terminal is the registered terminal, placing the terminal under a communicable status using the specific base station, and if not, placing the terminal under an incommunicable status using the specific base station,

wherein the terminal is constructed so as to transmit the location updating request when a location area identifier received from a base station is changed due to an inter-cell movement, and

the terminal status control system further comprises:

a giving unit giving the specific base station a location area identifier for the specific base station that is different from location area identifiers broadcasted in cells adjacent to the cell of the specific base station as a location area identifier that the specific base station broadcasts in the cell thereof, and

wherein the giving unit is provided in a base station control apparatus that manages and controls the specific base station,

the base station control apparatus includes a conversion unit converting a location area identifier of a location area, to which the specific base station belongs, contained in broadcast information, which the base station control apparatus receives from a location management apparatus managing the location of each terminal existing in the location area, to which the specific base station belongs, and transfers to the specific base station, into the location area identifier for the specific base station,

wherein the location management apparatus includes a management table for managing identification information unique to each terminal, a location area identifier of a location area in which the terminal exists, and a temporary identification information temporarily allocated to the terminal, and

the registration table and the judging unit are provided in the location management apparatus,

wherein the base station control apparatus adds identification information of the specific base station to the location registration request received from the specific base station, and transmits the location registration request to the location management apparatus, and

the judging unit acquires the identification information of the base station from the location registration request received by the location management apparatus as the base station specifying information, and if terminal identification information contained in the location updating request is the terminal temporary identification information, further acquires corresponding identification information unique to the terminal from the management table and judges whether the base station specifying information and the identification information unique

to the terminal are registered in the registration table.

7. (Original) A terminal status control system according to claim 6,
wherein the location management apparatus judges whether it is possible to approve the location updating request from the terminal,

wherein if it is impossible to permit the location updating, the location management apparatus transmits updating rejection to the terminal, and if it is possible to permit the location updating, causes the judging unit to perform the judging processing,

wherein if it is judged as a result of the judging processing that use of the specific base station is allowable, permission with respect to the location updating is transmitted to the terminal, and if not, rejection with respect to the location updating is transmitted to the terminal.

8. (Previously Presented) A terminal status control system according to claim 1,
wherein the registration table and the judging unit are provided in the base station control apparatus, and

the judging unit acquires the identification information of the specific base station managed by the base station control apparatus as the base station specifying information, and if identification information of the terminal contained in the location updating request received from the specific base station by the base station control apparatus is temporary identification information, acquires identification information unique to the terminal by inquiring of the terminal, and judges whether the base station specifying information and the identification information unique to the terminal are registered in the registration table.

9. (Original) A terminal status control system according to claim 8,

wherein when the base station control apparatus receives the location updating request from the specific base station, the judging unit performs the judging processing before the location updating request is transmitted to the location management apparatus, and

if it is judged as a result of the judgment by the judging unit that use of the specific base station is allowable, the base station control apparatus transmits the location updating request to the location management apparatus, and if not, transmits updating rejection to the terminal with respect to the location updating request.

10. (Previously Presented) A terminal status control system comprising:

a registration table in which information concerning a terminal that is allowed to use a specific base station is registered;

a judging unit judging whether a terminal that has entered a cell of the specific base station is the terminal registered in the registration table by referring to the registration table; and

a control unit, if the terminal is the registered terminal, placing the terminal under a communicable status using the specific base station, and if not, placing the terminal under an incommunicable status using the specific base station

wherein the terminal is constructed so as to transmit the location updating request when a location area identifier received from a base station is changed due to an inter-cell movement, and

the terminal status control system further comprises:

a giving unit giving the specific base station a location area identifier for the specific base station that is different from location area identifiers broadcasted in cells adjacent to the cell

of the specific base station as a location area identifier that the specific base station broadcasts in the cell thereof, and

wherein the giving unit is provided in a base station control apparatus that manages and controls the specific base station,

the base station control apparatus includes a conversion unit converting a location area identifier of a location area, to which the specific base station belongs, contained in broadcast information, which the base station control apparatus receives from a location management apparatus managing the location of each terminal existing in the location area, to which the specific base station belongs, and transfers to the specific base station, into the location area identifier for the specific base station,

wherein the location management apparatus, when a call termination request to the terminal occurs after the terminal is placed by the control unit under the communicable status using the specific base station, receives an inquiry from a transfer unit of the call termination request concerning a location area corresponding to a transmission destination of the call termination request, acquires the base station specifying information of the specific base station from the registration table, and informs the transfer unit of the identification information of the specific base station along with a corresponding location area identifier, based on the acquired location area identifier and base station specifying information of the specific base station, the transfer unit transmits the call termination request only to the base station control apparatus that controls the specific base station, and

the base station control apparatus, when receives the call termination request, transmits the call termination request to each base station that the base station control apparatus controls.

11. (Original) A terminal status control system according to claim 10,
wherein the transfer unit gives the base station specifying information of the specific base station to the call termination request, and
the base station control apparatus, when receives the call termination request, transmits the call termination request only to the specific base station based on the base station specifying information of the specific base station contained in the call termination request.

12. (Previously Presented) A terminal status control system comprising:
a registration table in which information concerning a terminal that is allowed to use a specific base station is registered;
a judging unit judging whether a terminal that has entered a cell of the specific base station is the terminal registered in the registration table by referring to the registration table; and
a control unit, if the terminal is the registered terminal, placing the terminal under a communicable status using the specific base station, and if not, placing the terminal under an incommunicable status using the specific base station
wherein the terminal is constructed so as to transmit the location updating request when a location area identifier received from a base station is changed due to an inter-cell movement, and
the terminal status control system further comprises:
a giving unit giving the specific base station a location area identifier for the specific base station that is different from location area identifiers broadcasted in cells adjacent to the cell of the specific base station as a location area identifier that the specific base station broadcasts in the cell thereof, and

wherein the giving unit is provided in a base station control apparatus that manages and controls the specific base station,

the base station control apparatus includes a conversion unit converting a location area identifier of a location area, to which the specific base station belongs, contained in broadcast information, which the base station control apparatus receives from a location management apparatus managing the location of each terminal existing in the location area, to which the specific base station belongs, and transfers to the specific base station, into the location area identifier for the specific base station,

wherein the registration table and the judging unit are provided in the base station control apparatus, and

the judging unit acquires the identification information of the specific base station managed by the base station control apparatus as the base station specifying information, and if identification information of the terminal contained in the location updating request received from the specific base station by the base station control apparatus is temporary identification information, acquires identification information unique to the terminal by inquiring of the terminal, and judges whether the base station specifying information and the identification information unique to the terminal are registered in the registration table,

wherein after the terminal is placed by the control unit under the communicable status using the specific base station, when a call termination request to the terminal is received, the base station control apparatus acquires the base station specifying information of the specific base station corresponding to the identification information of the terminal contained in the call termination request from the conversion table and transmits the call termination request only to

the specific base station based on the acquired base station specifying information.

13. (Previously Presented) A terminal status control system according to claim 1, wherein the base station control apparatus that controls the specific base station uniformly rejects handover requests from other base station control apparatuses.

14. (Previously Presented) A terminal status control system according to claim 1, wherein with respect to a handover request from another base station control apparatus, the base station control apparatus that controls the specific base station judges whether a terminal that is a target of the handover request is the terminal allowed to use the specific base station based on registration contents of the registration table,

wherein if the target terminal is the allowed terminal, the base station control apparatus approves the handover request, and if not, rejects the handover request.

15. (Previously Presented) A terminal status control system comprising:
a registration table in which information concerning a terminal that is allowed to use a specific base station is registered;

a judging unit judging whether a terminal that has entered a cell of the specific base station is the terminal registered in the registration table by referring to the registration table; and

a control unit, if the terminal is the registered terminal, placing the terminal under a communicable status using the specific base station, and if not, placing the terminal under an incommunicable status using the specific base station

wherein the terminal is constructed so as to transmit the location updating request when a location area identifier received from a base station is changed due to an inter-cell movement, and

the terminal status control system further comprises:

a giving unit giving the specific base station a location area identifier for the specific base station that is different from location area identifiers broadcasted in cells adjacent to the cell of the specific base station as a location area identifier that the specific base station broadcasts in the cell thereof, and

wherein the giving unit is provided in a base station control apparatus that manages and controls the specific base station,

the base station control apparatus includes a conversion unit converting a location area identifier of a location area, to which the specific base station belongs, contained in broadcast information, which the base station control apparatus receives from a location management apparatus managing the location of each terminal existing in the location area, to which the specific base station belongs, and transfers to the specific base station, into the location area identifier for the specific base station,

wherein with respect to a handover request from another base station control apparatus, the base station control apparatus that controls the specific base station judges whether a terminal that is a target of the handover request is the terminal allowed to use the specific base station based on registration contents of the registration table,

wherein if the target terminal is the allowed terminal, the base station control apparatus approves the handover request, and if not, rejects the handover request,

wherein when call origination from the terminal is received, the another base station control apparatus acquires the identification information unique to the terminal from the terminal, adds the identification information unique to the terminal to the handover request from the terminal, and transmits the handover request to the base station control apparatus that controls the specific base station, and

the base station control apparatus controlling the specific base station acquires the identification information unique to the terminal necessary to perform the judging processing from the handover request.

16-20 (Cancelled)

21. (Original) A terminal status control system according to claim 1, further comprising:

an internet protocol (IP) interface portion that is provided between the specific base station and the base station control apparatus that manages and controls the specific base station and performs IP communication therebetween, and

an apparatus that is provided between the base station control apparatus and a switchboard of a network including other base station control apparatuses and the location management apparatus, and performs conversion between the IP interface and another interface applied to the switchboard.

22-25 (Cancelled)

26. (Original) A terminal status control system according to claim 1,
wherein the specific base station is connected to the base station control apparatus via an
Internet service provider network.

27-29. (Cancelled)